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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,258

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EXAMINER

SENFİ, BEHROOZ M

ART UNIT

PAPER NUMBER

2621

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/644,258	<b>Applicant(s)</b> HOLCOMB ET AL.	
	<b>Examiner</b> Behrooz Senfi	<b>Art Unit</b> 2621	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 September 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 36,39-41 and 62-104 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36,39-41 and 62-104 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/30/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's arguments filed 8/30/2007 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 36, 39 – 41, 62 – 63, 65 – 76, 78 - 81 and 83 – 97 and 99 - 104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuan et al. (US 5,821,986) in view of Rodriguez et al. (US 5,300,949).

Regarding claim 36, Yuan discloses, a method for decoding a bit-stream for a sequence of video frames (i.e., fig. 19, illustrates the decoding process of the bit-stream, col. 3, lines 49 – 56 and col. 22, lines 14 - 45), the method comprising: receiving and processing first information for the sequence (i.e., fig. 19, decoder 292 process the first information receives from the memory 300), wherein the first information indicates whether multiple spatial resolution coding is enabled for the sequence (i.e., col. 5, lines 45 – 61 and col. 7, lines 10 – 21); if the first information indicates that multiple spatial resolution coding is enabled for the sequence, then for each of plural frames in the sequence (i.e., bit-stream header), receiving and processing second information in the bit-stream (i.e., decoder 292, receiving the information, e.g., consider as second

information, from the bit-stream header), the second information indicating one or more spatial resolution scaling factors (i.e., col. 6, clearly shows different spatial resolution, and as noted in col. 7, lines 10 – 15, indicates that the encoder/decoder selectively choose the level of resolution, e.g., scaling factor, to be used), and outputting a result of the processing (i.e., output of the video layers, as shown in fig. 19).

Yuan is silent in regards to explicit of, at frame level, as claimed.

However, Rodriquez in the same field teaches the limitation, at frame level, as claimed (please see, col. 3, lines 23 – 30, of Rodriquez).

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the video conferencing system of Yuan, in accordance with the teaching of Rodriquez, by changing the resolution using a frame structure, to enable changing the scale of frame resolution, from frame to frame depending upon processing demands, as suggested by Rodriquez (i.e., col. 15, lines 35 – 37).

Regarding claim 39, the combination of Yuan and Rodriquez teaches, wherein the one or more spatial resolution scaling factors are determined adaptively based at least in part on bit-rate criteria (i.e., col. 3, lines 57 – col. 4, lines 2 of Yuan and fig. 3, col. 5, lines 15 – 20 of Rodriquez).

Regarding claim 40, the combination of Yuan and Rodriquez teaches, the claimed high frequency (i.e., fig. 7, elements 162 and 168, and fig. 19, elements 308 and 310 of Rodriquez).

Regarding claim 41, the combination of Yuan and Rodriguez teaches, the quantization step size (i.e., fig. 7, elements 162 and 168 of Yuan).

Regarding claims 62 – 63, the combination of Yuan and Rodriguez teaches, I-frame and P-frame (i.e., col. 5, lines 10 – 19 and lines 62 – 63 of Rodriguez).

Regarding claims 65 - 67, the combination of Yuan and Rodriguez teaches, fixed length code (col. 12, lines 20 – 22 of Yuan) and variable length code (col. 12, lines 20 – 22 of Yuan).

Regarding claims 68 – 69, the combination of Yuan and Rodriguez teaches, sequence header (i.e., bit-stream header, col. 10, lines 60 – 61 of Yuan, and fig. 3, header 40 of Rodriguez).

Regarding claims 70 – 72, the combination of Yuan and Rodriguez teaches, re-sampling filter to be used for decoding (i.e. fig. 19, and col. 6, lines 1 – 40, a re-sampling filter would be used in decoding side for the particular layer, of Yuan), and vertical spatial resolution scaling factor and a horizontal spatial scaling factor (i.e. col. 6 of Yuan, top of the page, shows vertical and horizontal spatial resolutions with different factor), wherein the vertical scaling factor differs from the horizontal scaling factor (i.e. col. 6, top of the page, wherein the vertical and horizontal resolutions have different factor).

Regarding claims 73 – 74, the combination of Yuan and Rodriguez teaches, vertical spatial resolution scaling factor is selected from a set of vertical spatial resolution comprising full resolution and half resolution (page 6, lines 1 – 10, the fact that resolutions are selected from a group comprising more than two spatial resolutions,

and one can be full resolution, col. 17, lines 30 – 36 and the other can be half resolution).

Regarding claims 75 - 76, the combination of Yuan and Rodriquez teaches, decoding the sequence in multiple spatial resolutions, when encoding is in multiple resolution (i.e., fig. 19, col. 7, lines 10 – 15, it is clear that if the encoding is not in multiple resolution the decoding also follows the encoding process and would produce a single resolution output based on the data received from the encoding side, of Yuan), and reduced spatial resolution (i.e., fig. 12, scaling, e.g., down-sampling) and up-sampling (i.e., fig. 19, up-sampler 342 of Yuan).

Regarding claim 78, the combination of Yuan and Rodriquez teaches, reduce blocking artifacts (col. 6, 32 – 42, col. 7, lines 10 – 15 and col. 19, lines 37 – 38, of Yuan).

Regarding claims 79 and 101 - 104, the limitations claimed are substantially similar to combination claims 36 and 75, therefore the grounds for rejecting claims 36 and 75 also applies here.

Regarding claims 80 – 97, please see the rejection with respect to claims 39 – 41, 62 – 63 and 65 – 76 above.

Regarding claim 100, the combination of Yuan and Rodriquez teaches, wherein a current frame of the plural frames includes plural lines, e.g., vertical and horizontal liners, and wherein multiple spatial resolution coding for the current frame includes adjusting number of samples in each of the lines so the number is a macroblock

multiple (i.e., col. 6 of Yuan, top of the page, shows vertical and horizontal lines with different factors, and col. 14, lines 55 – 58).

4. Claims 77 and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuan et al. (US 5,821,986) in view of in Rodriquez et al. (US 5,300,949) and Gryskiewicz (US 6,937,291).

Regarding claim 77, the combination of Yuan and Rodriquez is silent in regards to, 10-tap filter for decoding the current frame.

However, Gryskiewicz teaches, (fig. 3, filter range from 2-tap to 80 taps to produce a high quality output signal, col. 4, lines 42 – 55).

In view of the above, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Yuan's video compression in accordance with the teaching of Gryskiewicz by using an adaptive N-tap filter to determine and produce a high quality output signal.

Regarding claim 98, the limitations claimed are substantially similar to claim 77, therefore, please see the rejection with respect to claim 77 above.

***Allowable Subject Matter***

5. Claims 64 and 82 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Behrooz Senfi whose telephone number is 571-272-7339. The examiner can normally be reached on M-F 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Application/Control Number:  
10/644,258  
Art Unit: 2621

Page 8

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Behrooz Senfi  
Examiner  
Art Unit 2621

  
~~APPROVED~~  
PRIMARY EXAMINER